



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,880	03/26/2001	Sean E. Trowbridge	MS167381.1	7613
27195	7590	06/25/2004	EXAMINER	
AMIN & TUROCY, LLP 24TH FLOOR, NATIONAL CITY CENTER 1900 EAST NINTH STREET CLEVELAND, OH 44114			RUTTEN, JAMES D	
			ART UNIT	PAPER NUMBER
			2122	

DATE MAILED: 06/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/817,880	Applicant(s) TROWBRIDGE, SEAN E.	
	Examiner J. Derek Rutten	Art Unit 2122	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/26/2001</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-33 have been examined.

Oath/Declaration

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

While acknowledging the duty to disclose in accordance with 37 CFR 1.56(a), it does not state that the person making the oath or declaration acknowledges the duty to disclose to the Office all information known to the person to be material to patentability as defined in 37 CFR 1.56.

Claim Objections

3. Claims 9 and 11 are objected to because of the following informalities: Claim 9 should read "The system of Claim 7, wherein the virtual subsystem performs at least one of: loads related executables, organizes data fields and methods within the generic image, analyzes intermediate language formats, and generates native platform code". Claim 11 recites "and according to a usage pattern" which should read "and a usage pattern". Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Art Unit: 2122

5. Claims 12 and 23-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Specifically, Claim 12 recites "a native code image is generated by the virtual subsystem if a native executable is unavailable". How is it possible for the native executable to be unavailable if it is generated in parent Claim 1? A native executable can only be unavailable if it was not yet generated or if it was previously generated and then absent in some way. Furthermore, how is it possible to generate a code image if the executable associated with the code image is unavailable?

Claim 23 recites "processing a generic image utilizing standard compilation techniques". It is understood that an image is an executable piece of software. If the image is compiled by "standard compilation techniques", how is it possible for the image to be an executable?

Claims 24-26 are rejected for being dependent on a rejected parent claim.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 3, 6, 10, 11, 13-15, and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 3 recites "comprising an image repository to store 1 through N specialized native images, wherein N is an integer." Integers include members of the set of positive whole numbers

Art Unit: 2122

1, 2, 3,... , negative whole numbers -1, -2, -3,... , and zero {0}. It does not make sense in this context to store, for example, 1 through 0, or 1 through -1 images. For the purpose of further examination, this limitation will be interpreted as --wherein N is a positive integer--.

9. Claim 6 suffers the same deficiencies as claim 3 described above.

10. Claim 10 recites "the virtual subsystem creates a generic native image" which is unclear. Claim 1 recites that the virtual subsystem creates a "native executable" and not a "generic native image". If the "generic native image" is indeed the "native executable", this needs to be clarified. Furthermore, "a generic native image" is an unclear concept. A generic image, in the context of this application, is not native, and vice versa. Claim 10 further recites the term "about the time" which is indefinite, as it generalizes a time period that cannot be clearly specified. What exactly is meant by "about the time"? Claim 10 recites the term "the generic image is installed". Neither Claim 10, nor parent claims, makes reference to images being installed, only generated.

11. Claim 11 recites, "the logged information includes a set of information to enable executable images according to at least one of a particular user," which is unclear. What does it mean to enable executable images according to a particular user, or a method invocation? What does it mean to "enable" an executable image?

12. Claim 13 recites the limitation "the logged information feedback" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

13. Claims 14 and 15 are rejected for being dependent on a rejected parent claim.

14. Claim 27 recites "loading related executables". However, there is not mention of executables in Claim 27, or parent claims.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

16. Claims 20-23 and 27-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Goodwin et al. (U.S. Patent Number 6,158,049).

In regard to Claim 20, Goodwin teaches: determining a first code image associated with a possible runtime environment (Figure 1, item 103); executing the first code image in the runtime environment (Figure 2, item 151); and generating runtime feedback associated with the first code image to adjust a subsequent code image according to the runtime environment (Figure 2, items 152 and 107).

In regard to Claim 21, Goodwin teaches generating a specialized executable from the subsequent code image (Column 4, lines 57-60).

In regard to Claim 22, Goodwin teaches storing the application images in a database (Figure 1, item 107).

In regard to Claim 23, Goodwin teaches processing a generic image using standard compilation techniques (Figure 1, item 102).

In regard to Claim 27, Goodwin teaches organizing data and methods in the first image to optimize the images based on profile data (Column 2, lines 63-67).

In regard to Claims 28 and 29, these are system Claims that correspond with method Claims 20 and 21, and are rejected for the same reasons as Claim 20 and 21 respectively, where Goodwin teaches a system for carrying out said method of Claims 20 and 21 (Figure 1).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 1, 2, 5-10, 12-17, 19, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breslau et al. (U.S. Patent Number 5,761,512) in view of Spyker et al. (U.S. Patent Number 6,571,389).

In regard to Claim 1, Breslau teaches a log to store information relating to an operating environment of a system (Figure 2), the logged information is employed as feedback to generate a native executable (Figure 3, item 59). Breslau does not teach that the system is a virtual subsystem nor does he teach that the native executable is utilized to provide improved performance of the virtual subsystem.

Art Unit: 2122

Spyker, however, does teach generating native executables on a virtual subsystem for improving the performance of the subsystem (Column 1, lines 22-27 and lines 37-44). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to build a system including a log to store information relating to an operating environment of a system, the logged information is employed as feedback to generate a native executable, as taught by Breslau, where the system is a virtual subsystem and the native executable is utilized to provide improved performance of the virtual subsystem, as taught by Spyker, since this allows the programming image to be utilized in a number of different environments.

In regard to Claim 2, Breslau teaches that the native executable is selected for execution by the virtual subsystem by matching a current environment setting with the logged information (Column 8, lines 22-27).

In regard to Claim 5, Breslau teaches a local data log (Figure 4, item 135).

In regard to Claim 6, Breslau teaches a data log stores 1 through N environment parameter descriptions associated with 1 to N encountered images, wherein N is an integer (Figure 1A).

In regard to Claim 7, Spyker teaches a virtual machine as a virtual subsystem which uses an intermediate code image (Figure 1, lines 22-27 and lines 39-44).

In regard to Claim 8, Spyker teaches a Just-In-Time compilation (Column 1, lines 39-44).

In regard to Claim 9, Spyker teaches that the virtual subsystem generates native platform code (Column 1, lines 39-44).

In regard to Claim 10, Spyker teaches installing or running a generic code image by converting it into a native image (Column 1, lines 39-44).

In regard to Claim 12, Spyker teaches generating a native code image using the virtual machine (Column 1, lines 39-44).

In regard to Claim 13, Breslau teaches an image processor for processing the log information and generating a native executable (Figure 3).

In regard to Claim 14, Breslau teaches that the image processor comprises a compiler (Figure 3, item 59).

In regard to Claim 15, Breslau teaches an image-processing tool to read the logged information and associate one or more environmental settings with one or more related images encountered during virtual subsystem execution (Column 9, lines 43-48).

In regard to Claim 16, Breslau teaches logged information relating to an operating system version and processor type (Figure 2).

In regard to Claim 17, Breslau teaches a system identifier to match parameters with native code (Figure 2, items "SYS A", "SYS B", and "SYS C").

In regard to Claim 19, Breslau teaches a medium (Figure 4) for carrying out said execution of the system in Claim 1.

In regard to Claim 30, Claim 30 corresponds with Claim 1, and Claim 30 is rejected for the same reasons as Claim 1, where a signal is an inherent aspect of communication in a data processing system.

In regard to Claim 31, Spyker teaches that this signal is communicated over a network (Figure 5A, items 506 and 507).

19. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breslau et al. (U.S. Patent Number 5,761,512) in view of Spyker et al. (U.S. Patent Number 6,571,389) and further in view of Fogarty et al. (U.S. Patent Number 6,721,946).

In regard to Claim 3, Breslau and Spyker teach the method of Claim 1, but do not teach an image repository to store 1 through N specialized native images, wherein N is an integer.

Fogarty, however, does teach an image repository for holding a plurality of software images (Figure 2, item 212). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to build the system of Claim 1, further storing the images in an image repository, since this allows the images to be centrally accessed from one location.

In regard to Claim 4, Fogarty teaches that the image database is a local or remote database (Figure 3, item 212).

20. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Breslau et al. (U.S. Patent Number 5,761,512) in view of Spyker et al. (U.S. Patent Number 6,571,389) and further in view of Cooligan et al. (U.S. Patent Number 6,519,762).

In regard to Claim 11, Breslau and Spyker teach the system of Claim 1, but do not teach that the logged information includes a set of information to enable the specialization of executable images according to a user, a method of invocation, and a usage pattern.

Cooligan, however, does teach specializing applications based on user preferences. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to build the system of Claim 1, as taught by Breslau and Spyker,

where the logged information includes a set of information to enable the specialization of executable images according to a user, as taught by Cooligan, since this allows the user to interact with software that he or she feels comfortable with (Column 2, lines 52-54).

21. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Breslau et al. (U.S. Patent Number 5,761,512) in view of Spyker et al. (U.S. Patent Number 6,571,389) and further in view of Nelin et al. (U.S. Patent Number 6,253,368).

In regard to Claim 18, Breslau and Spyker teach the system of Claim 16, but neither teaches that the developer parameters describe at least one of debug options, compiler switch settings and information relating to preferences of a user.

Nelin, however, does teach storing development parameters that deal with user preferences of debug options (Column 15, lines 40-47). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to build the system of Claim 16, as taught by Breslau and Spyker, where the developer parameters describe at least one of debug options, compiler switch settings and information relating to preferences of a user, as taught by Nelin, since these options are also a field that helps to profile the settings and preferences of a computer system and a user.

22. Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goodwin et al. (U.S. Patent Number 6,158,049) in view of Breslau et al. (U.S. Patent Number 5,761,512).

In regard to Claim 24, Goodwin teaches the method of Claim 23, but does not teach logging operating environment information during processing of the generic image.

Breslau, however, does teach logging environment variables of a computer system to compile a generic image (Figure 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of Claim 23, as taught by Goodwin, where the method includes logging operating environment information during processing of the generic image, as taught by Breslau, since this allows customization of the image to suit the environment.

In regard to Claim 25, Goodwin teaches the method of Claim 23, but does not teach building the specialized executable to suit the environment.

Breslau, however, does teach generating an environment specific executable (Column 1, lines 65-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of Claim 23, as taught by Goodwin, where the method includes building the specialized executable to suit the environment, as taught by Breslau, since this allows customization of the executable to suit the environment.

In regard to Claim 26, Breslau teaches selecting the specialized executable by matching a current environment setting with the logged environment information (Column 8, lines 22-27).

23. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Breslau et al. (U.S. Patent Number 5,761,512) in view of Nelin et al. (U.S. Patent Number 6,253,368).

In regard to Claim 32, Breslau teaches a first data field having parameters relating to at least one of an operating system version (Figure 2, item "OS" in SET Table) and a third data field having a profile information field associated with the operating environment of a virtual system (Figure 2, item "HW" in SET Table). Breslau does not teach a second data field having at least one of a developer parameter, a domain flag, a security information field, and a binding information field.

Nelin, however, does teach a developer parameter field for debugging programs (Column 15, lines 40-47). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to construct a data structure containing a first data field having parameters relating to at least one of an operating system version and a third data field having a profile information field associated with the operating environment of a virtual system, as taught by Breslau, where the structure also contains a second data field having a developer parameter, as taught by Nelin, since a developer parameter is also a field that helps to profile the settings and preferences of a computer system and a user.

24. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Breslau et al. (U.S. Patent Number 5,761,512) in view of Ramezani (U.S. Patent Number 6,457,122) and further in view of Spyker et al. (U.S. Patent Number 6,571,389).

In regard to Claim 33, Breslau teaches an execution engine that processes an image (Figure 3), the execution engine generating operating environment data while processing the image (Figure 2), and a specialized executable image generated at least in

part from the operating environment data (Figure 3, item 59). Breslau does not teach that the specialized executable image stored in a repository of one or more other specialized executable images wherein the execution engine selects at least one specialized executable image from the repository if the at least one specialized image matches present operating environment data.

Ramezani, however, does teach a specialized image repository (Column 4, lines 54-57); wherein the execution engine selects at least one specialized executable image from the repository if the at least one specialized image matches present operating environment data (Column 5, lines 11-12). Neither Breslau nor Ramezani teach that the image is an intermediate language image. Spyker, however, does teach processing an intermediate language image (Column 1, lines 37-44).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to build a system including an execution engine that processes an image, the execution engine generating operating environment data while processing the image, and a specialized executable image generated at least in part from the operating environment data, as taught by Breslau, where the specialized executable image stored in a repository of one or more other specialized executable images wherein the execution engine selects at least one specialized executable image from the repository if the at least one specialized image matches present operating environment data, as taught by Ramezani, since this allows for a centralized storage location for all of the images, as well as an image that is designed specifically for a certain operating environment, further where the first image is an intermediate language image, as taught by Spyker, since this

Art Unit: 2122

allows the image to be executed on any environment that can handle the intermediate language.

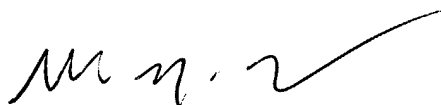
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Derek Rutten whose telephone number is (703) 605-5233. The examiner can normally be reached on M-F 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (703) 305-4552. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jdr



WEI Y. ZHEN
PRIMARY PATENT EXAMINER